

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Krishnan Menon Examiner #: 79533 Date: 9-23-03
Art Unit: 1723 Phone Number 305-5999 Serial Number: 10/007442
Mail Box and Bldg/Room Location: CP3-5C14 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): Tejraj Aminabivi

23

Earliest Priority Filing Date: 12/5/01

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Need structure search of the
polymer according to claims
1, 3 and 4.

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>ED</u>	NA Sequence (#) _____	STN <u>\$196.61</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>(-1)</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic <u>(check)</u>	Dr.Link _____
Date Completed: <u>9-23-03</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>10</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: <u>75</u>	Other _____	Other (specify) _____

=> file reg

FILE 'REGISTRY' ENTERED AT 15:14:29 ON 23 SEP 2003
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=> d his

FILE 'HCAPLUS' ENTERED AT 14:10:06 ON 23 SEP 2003

L1 389 S AMINABHAVI ?/AU
L2 6829 S KULKARNI ?/AU
L3 13 S KARIDURAGANAVAR ?/AU
L4 4 S L1 AND L2 AND L3
SEL L4 1-4 RN

FILE 'REGISTRY' ENTERED AT 14:10:27 ON 23 SEP 2003

L5 13 S E1-E13
L6 2 S L5 AND PMS/CI
L7 2 S L5 AND N/ELS

FILE 'HCAPLUS' ENTERED AT 14:11:36 ON 23 SEP 2003

L8 48 S L1 AND L2
L9 10 S L1 AND L3
L10 4 S L2 AND L3
L11 681341 S MEMBRAN?
L12 12 S (L8 OR L9 OR L10) AND L11
L13 8 S L12 NOT L4
SEL L13 1-8 RN

FILE 'REGISTRY' ENTERED AT 14:12:37 ON 23 SEP 2003

L14 16 S E14-E29
L15 8 S L14 AND PMS/CI
L16 5 S L14 AND N/ELS

FILE 'LREGISTRY' ENTERED AT 14:15:34 ON 23 SEP 2003

L17 STR
L18 STR
E EPICHLOROHYDRIN/CN
L19 1 S E3
L20 STR 106-89-8

FILE 'REGISTRY' ENTERED AT 14:26:44 ON 23 SEP 2003

L21 SCR 2043
L22 0 S L17 AND L18 AND L20 AND L21

FILE 'LREGISTRY' ENTERED AT 14:27:43 ON 23 SEP 2003

L23 STR L18

FILE 'REGISTRY' ENTERED AT 14:29:26 ON 23 SEP 2003

L24 4 S L17 AND L18 AND L23 AND L21
 L25 0 S L17 AND L23 AND L20 AND L21
 L26 STR L20
 L27 1 S L17 AND L23 AND L26 AND L21
 L28 STR L17
 L29 1 S L28 AND L23 AND L26 AND L21
 L30 13 S L28 AND L23 AND L26 AND L21 FUL
 SAV L30 MEN442/A

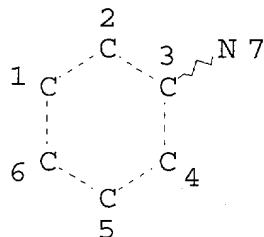
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FILE 'ZCAPLUS' ENTERED AT 14:43:08 ON 23 SEP 2003
 L32 12 S L30

FILE 'REGISTRY' ENTERED AT 15:14:29 ON 23 SEP 2003

=> d l30 que stat

L21 SCR 2043
 L23 STR



NODE ATTRIBUTES:

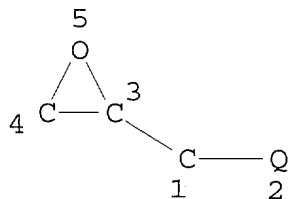
NSPEC IS RC AT 7
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE

L26 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

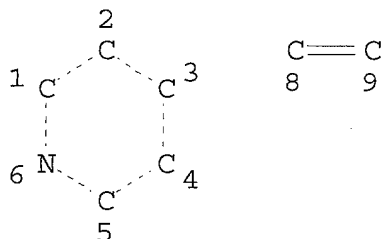
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NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L28 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE

L30 13 SEA FILE=REGISTRY SSS FUL L28 AND L23 AND L26 AND L21

100.0% PROCESSED 25 ITERATIONS

13 ANSWERS

SEARCH TIME: 00.00.01

=> file zcaplus

FILE 'ZCAPLUS' ENTERED AT 15:14:41 ON 23 SEP 2003

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

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=> d l32 1-12 cbib abs hitstr hitrn

L32 ANSWER 1 OF 12 ZCAPLUS COPYRIGHT 2003 ACS on STN

2003:92146 Document No. 139:7562 Anion exchangers based on glycidyl derivatives of aromatic diamines and some allyl halides. Ergozhin, E. E.; Chalov, A. K.; Iskakova, R. A.; Sarsenov, S. K. (Bekturov Institute of Chemical Sciences, Ministry of Education and Science of Kazakhstan Republic, Almaty, Kazakhstan). Russian Journal of Applied Chemistry (Translation of Zhurnal Prikladnoi Khimii), 75(11), 1791-1794 (English) 2002. CODEN: RJACEO. ISSN: 1070-4272. Publisher: MAIK Nauka/Interperiodica Publishing.

AB Polyfunctional three-dimensional network anion exchangers were prepd. by condensation of tetraglycidyl-4,4'-diaminodiphenylmethane with allyl halides and amines. The optimal prepn. conditions were detd.; the properties of the resulting product as influenced by the nature of the initial monomers were evaluated.

IT 478021-46-4P

(prepn. and properties of anion exchangers based on tetraglycidyldiaminodiphenylmethane with polyamines and allyl halides)

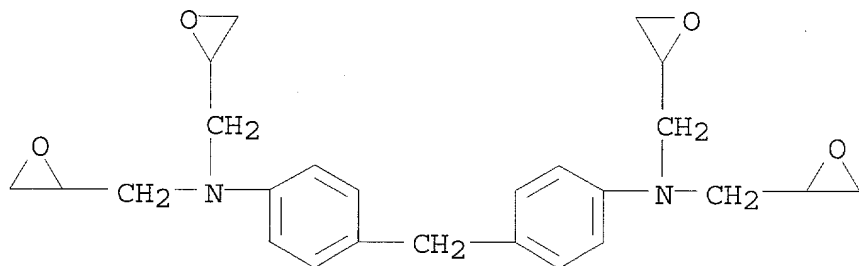
RN 478021-46-4 ZCAPLUS

CN Oxiranemethanamine, N,N'-(methylenedi-4,1-phenylene)bis[N-(oxiranymethyl)-, polymer with 3-bromo-1-propene and 5-ethenyl-2-methylpyridine (9CI) (CA INDEX NAME)

CM 1

CRN 28768-32-3

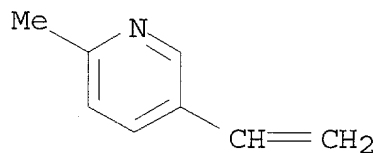
CMF C25 H30 N2 O4



CM 2

CRN 140-76-1

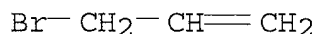
CMF C8 H9 N



CM 3

CRN 106-95-6

CMF C3 H5 Br



IT 478021-46-4P

(prepn. and properties of anion exchangers based on tetraglycidyldiaminodiphenylmethane with polyamines and allyl halides)

L32 ANSWER 2 OF 12 ZCAPLUS COPYRIGHT 2003 ACS on STN

2002:839931 Document No. 138:90881 Physicochemical and sorption properties of novel polyfunctional anion-exchange resins. Chalov, A. K. (Inst. Khim. Nauk im. A. B. Bekturova, MON RK, Almaty, Kazakhstan). Izvestiya Ministerstva Obrazovaniya i Nauki Respubliki Kazakhstan, Natsional'noi Akademii Nauk Respubliki Kazakhstan, Seriya Khimicheskaya (4), 33-36 (Russian) 2002. CODEN: IMSKFR. ISSN: 1025-9341. Publisher: Nauchno-Izdatel'skii Tsentr "Gylym".

AB Sorption of Co (2+), Ni (2+), and Cu (2+) by anion exchange resins based on copolymers of allyl bromide with 4,4'-diaminodiphenylmethane tetraglycidyl ether crosslinked with di and polyamines were studied.

IT 478021-46-4, Allyl bromide-4,4'-diaminodiphenylmethane tetraglycidyl ether-2-methyl-5-vinylpyridine copolymer (physicochem. and sorption properties of polyfunctional anion-exchange resins)

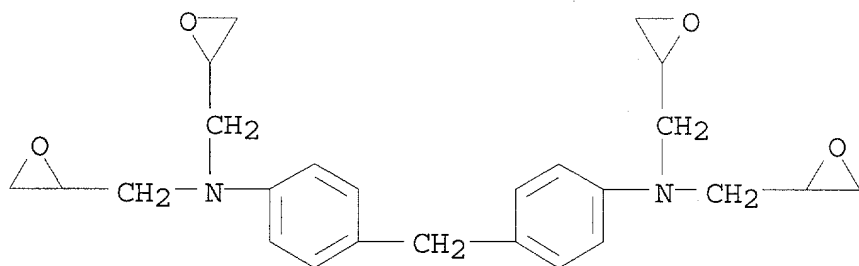
RN 478021-46-4 ZCAPLUS

CN Oxiranemethanamine, N,N'-(methylenedi-4,1-phenylene)bis[N-(oxiranylmethyl)-], polymer with 3-bromo-1-propene and 5-ethenyl-2-methylpyridine (9CI) (CA INDEX NAME)

CM 1

CRN 28768-32-3

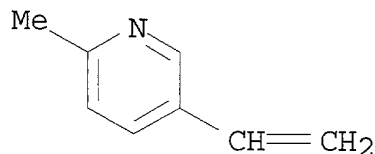
CMF C25 H30 N2 O4



CM 2

CRN 140-76-1

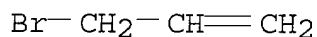
CMF C8 H9 N



CM 3

CRN 106-95-6

CMF C3 H5 Br



IT **478021-46-4**, Allyl bromide-4,4'-diaminodiphenylmethane tetraglycidyl ether-2-methyl-5-vinylpyridine copolymer (physicochem. and sorption properties of polyfunctional anion-exchange resins)

L32 ANSWER 3 OF 12 ZCAPLUS COPYRIGHT 2003 ACS on STN
 2002:751716 Document No. 138:25234 Synthesis of polyfunctional anion-exchange resins from 4,4'-diaminodiphenylmethane tetraglycidyl ether, allyl halides and di- and polyamines. Chalov, A. K. (Inst. Khim. Nauk im. A. B. Bekturova, MON RK, Almaty, Kazakhstan). Izvestiya Ministerstva Obrazovaniya i Nauki Respubliki Kazakhstan, Natsional'noi Akademii Nauk Respubliki Kazakhstan, Seriya Khimicheskaya (2), 98-102 (Russian) 2002. CODEN: IMSKFR. ISSN: 1025-9341. Publisher: Nauchno-Izdatel'skii Tsentr "Gylym".

AB Polyfunctional anion exchange resins were prep'd. by condensation of 4,4'-diaminodiphenylmethane tetraglycidyl ether with allyl bromide or allyl chloride and amines. Polyethyleneimine, polyethylenepolyamine, hexamethylenediamine, and poly(2-methyl-5-vinylpyridine) were used as amines. Exchange capacity of the resins was detd.

IT **478021-46-4P**, Allyl bromide-4,4'-diaminodiphenylmethane tetraglycidyl ether-2-methyl-5-vinylpyridine copolymer (synthesis of polyfunctional anion-exchange resins from 4,4'-diaminodiphenylmethane tetraglycidyl ether, allyl halides and some di-and polyamines)

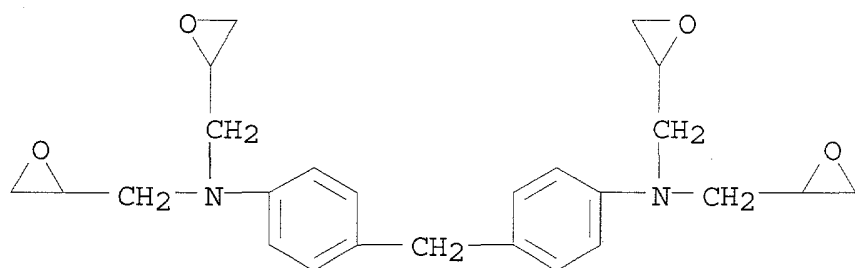
RN 478021-46-4 ZCAPLUS

CN Oxiranemethanamine, N,N'-(methylenedi-4,1-phenylene)bis[N-(oxiranylmethyl)-, polymer with 3-bromo-1-propene and 5-ethenyl-2-methylpyridine (9CI) (CA INDEX NAME)

CM 1

CRN 28768-32-3

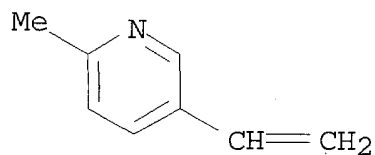
CMF C25 H30 N2 O4



CM 2

CRN 140-76-1

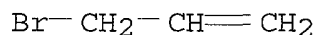
CMF C8 H9 N



CM 3

CRN 106-95-6

CMF C3 H5 Br



IT 478021-46-4P, Allyl bromide-4,4'-diaminodiphenylmethane tetraglycidyl ether-2-methyl-5-vinylpyridine copolymer (synthesis of polyfunctional anion-exchange resins from 4,4'-diaminodiphenylmethane tetraglycidyl ether, allyl halides and some di-and polyamines)

L32 ANSWER 4 OF 12 ZCAPLUS COPYRIGHT 2003 ACS on STN
 2001:501326 Document No. 135:227563 Synthesis and physicochemical study of polyfunctional ion exchangers based on dextramine waste from levomycetin production. Ergozhin, E. E.; Menayakova, G. A.; Atshabarova, R. B. (Bekturov Institute for Chemical Research, Ministry of Education and Science of Kazakhstan Republic, Almaty, Kazakhstan). Russian Journal of Applied Chemistry (Translation of Zhurnal Prikladnoi Khimii), 74(1), 36-38 (English) 2001. CODEN: RJACEO. ISSN: 1070-4272. Publisher: MAIK Nauka/Interperiodica

Publishing.

AB New polyfunctional anion exchangers are synthesized from dextramine (waste from levomycetin prodn.) by condensation of its glycidyl ethers with certain polyamines. The polycondensation conditions are optimized, and physicochem. properties of the resulting ion exchangers are studied.

IT 358967-80-3P 359685-60-2P

(synthesis and physicochem. study of polyfunctional ion exchangers based on dextramine waste from levomycetin prodn.)

RN 358967-80-3 ZCAPLUS

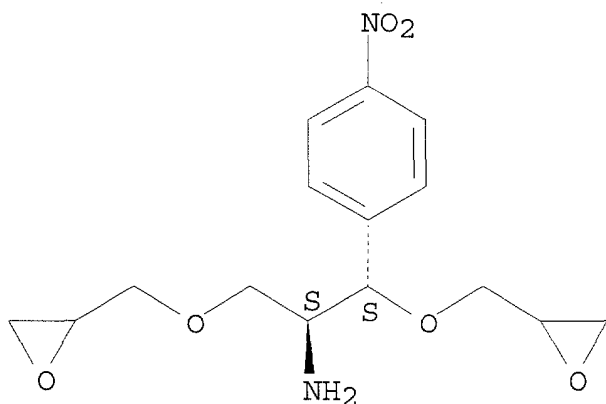
CN Benzeneethanamine, 4-nitro-.beta.-(oxiranylmethoxy)-.alpha.-[(oxiranylmethoxy)methyl]-, (.alpha.S,.beta.S)-, polymer with 5-ethenyl-2-methylpyridine (9CI) (CA INDEX NAME)

CM 1

CRN 358967-77-8

CMF C15 H20 N2 O6

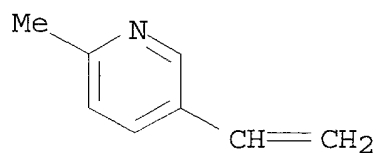
Absolute stereochemistry.



CM 2

CRN 140-76-1

CMF C8 H9 N



RN 359685-60-2 ZCAPLUS

CN Oxiranemethanamine, N-[4-[(1S,2S)-1,3-bis(oxiranylmethoxy)-2-

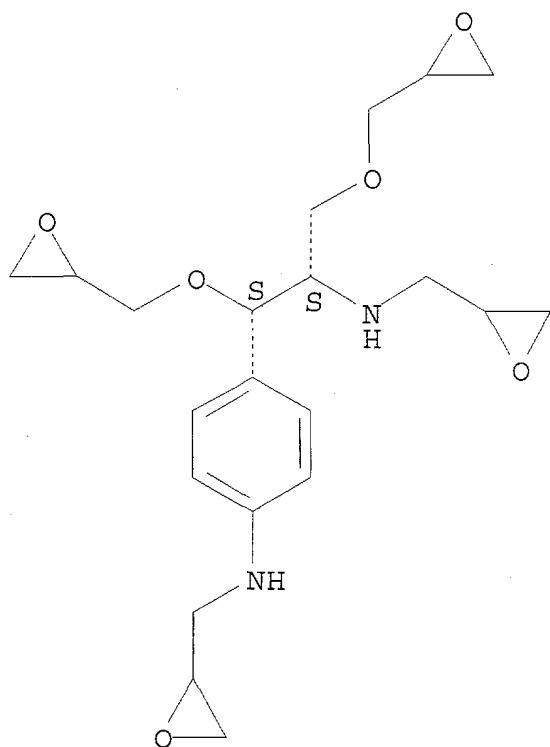
[(oxiranylmethyl)amino]propyl]phenyl]-, polymer with
5-ethenyl-2-methylpyridine (9CI) (CA INDEX NAME)

CM 1

CRN 359685-36-2

CMF C21 H30 N2 O6

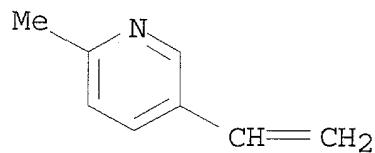
Absolute stereochemistry.



CM 2

CRN 140-76-1

CMF C8 H9 N



IT 358967-80-3P 359685-60-2P
(synthesis and physicochem. study of polyfunctional ion

exchangers based on dextramine waste from levomycetin prodn.)

L32 ANSWER 5 OF 12 ZCAPLUS COPYRIGHT 2003 ACS on STN

1996:686240 Document No. 125:330748 Polyfunctional anion exchangers from glycidyl derivative of a threo-amine and di- and polyamines. Ergozhin, E. E.; Tastanov, K. Kh.; Atshabarova, R. B.; Chokina, B. Sh. (Inst. Khim. Nauk im. Bekturova, Almaty, Kazakhstan). Izvestiya Natsional'noi Akademii Nauk Respubliki Kazakhstan, Seriya Khimicheskaya (5), 56-60 (Russian) 1994. CODEN: INRKES. Publisher: Gylm.

AB Anion exchangers based on epichlorohydrin, -D,L-threo-1-(p-nitrophenyl)-2-aminopropanediol-1,3 and amines (polyaethylenepolyamine, polyethylenimine, and 3,3'-diaminodipropylamine) were synthesized. Optimal conditions were detd. and structure was investigated.

IT 183722-56-7P 183722-60-3P 183722-61-4P
(polyfunctional anion exchangers from glycidyl deriv. of a threo-amine and di- and polyamines)

RN 183722-56-7 ZCAPLUS

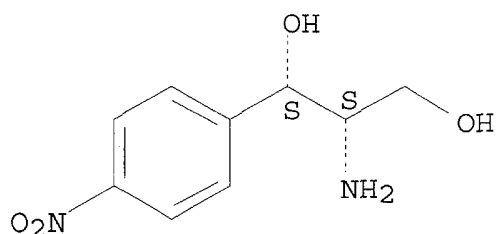
CN 1,3-Propanediol, 2-amino-1-(4-nitrophenyl)-, (1R,2R)-rel-, polymer with (chloromethyl)oxirane and 5-ethenyl-2-methylpyridine (9CI) (CA INDEX NAME)

CM 1

CRN 3689-55-2

CMF C9 H12 N2 O4

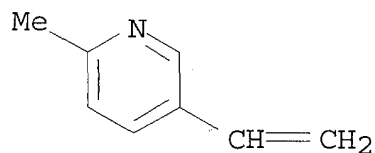
Relative stereochemistry.



CM 2

CRN 140-76-1

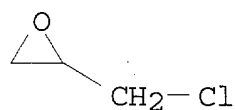
CMF C8 H9 N



CM 3

CRN 106-89-8

CMF C3 H5 Cl O



RN 183722-60-3 ZCAPLUS

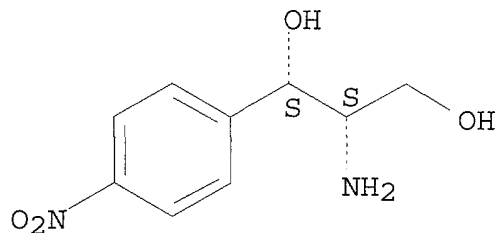
CN 1,3-Propanediol, 2-amino-1-(4-nitrophenyl)-, [S-(R*,R*)]-, polymer
with (chloromethyl)oxirane and 5-ethenyl-2-methylpyridine (9CI) (CA
INDEX NAME)

CM 1

CRN 2964-48-9

CMF C9 H12 N2 O4

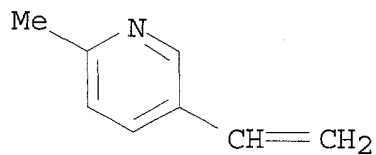
Absolute stereochemistry. Rotation (+).



CM 2

CRN 140-76-1

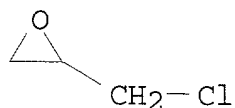
CMF C8 H9 N



CM 3

CRN 106-89-8

CMF C3 H5 Cl O



RN 183722-61-4 ZCAPLUS

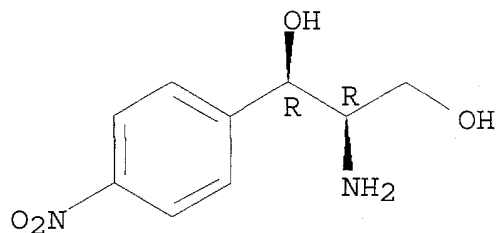
CN 1,3-Propanediol, 2-amino-1-(4-nitrophenyl)-, [R-(R*,R*)]-, polymer
with (chloromethyl)oxirane and 5-ethenyl-2-methylpyridine (9CI) (CA
INDEX NAME)

CM 1

CRN 716-61-0

CMF C9 H12 N2 O4

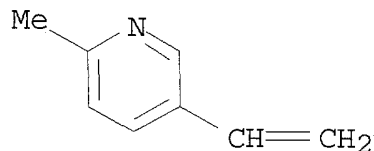
Absolute stereochemistry. Rotation (-).



CM 2

CRN 140-76-1

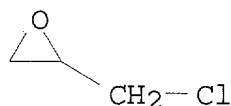
CMF C8 H9 N



CM 3

CRN 106-89-8

CMF C3 H5 Cl O



IT 183722-56-7P 183722-60-3P 183722-61-4P

(polyfunctional anion exchangers from glycidyl deriv. of a threo-amine and di- and polyamines)

L32 ANSWER 6 OF 12 ZCAPLUS COPYRIGHT 2003 ACS on STN

1993:603984 Document No. 119:203984 Polyesters, polyurethanes and epoxy resins derived from 2,2'-(1,4-phenylenedivinylene)bis-8-hydroxyquinaldine and 6-(4-hydroxystyryl)-3-hydroxypyridine. Diakoumakos, Constantinos D.; Mikroyannidis, John A. (Dep. Chem., Univ. Patras, Patras, GR-26110, Greece). Journal of Polymer Science, Part A: Polymer Chemistry, 31(9), 2333-44 (English) 1993. CODEN: JPACEC. ISSN: 0887-624X.

AB New polyesters and polyurethanes as well as diepoxides bearing styrylpyridine segments were prepd. utilizing 2,2'-(1,4-phenylenedivinylene)-bis-8-hydroxyquinaldine (PBHQ) and 6-(4-hydroxystyryl)-3-hydroxypyridine (HSHP) as starting materials. The polyesters were prepd. by reacting PBHQ or HSHP with terephthaloyl dichloride in the presence of an acid acceptor utilizing the soln. polycondensation method. The polyurethanes were prepd. from the reactions of PBHQ and HSHP with TDI and methylenebis(4-phenylisocyanate). In addn., model diesters and diurethanes were synthesized by reacting PBHQ and HSHP with benzoyl chloride and Ph isocyanate, resp. Model compds. and polymers were characterized by FTIR and 1H-NMR spectroscopy as well as by DTA and TGA. Diepoxides were also prepd. from the reactions of PBHQ and HSHP with epichlorohydrin which were polymd. in the presence of 4,4'-diaminodiphenyl sulfone. The polyesters were the most thermostable polymers obtained. After curing at 240.degree. for 20 h, they were stable in N2 up to 345-370.degree. and afforded anaerobic char yields of 65-75% at 800.degree..

IT 150694-04-5P 150694-05-6P

(prepn. and characterization of)

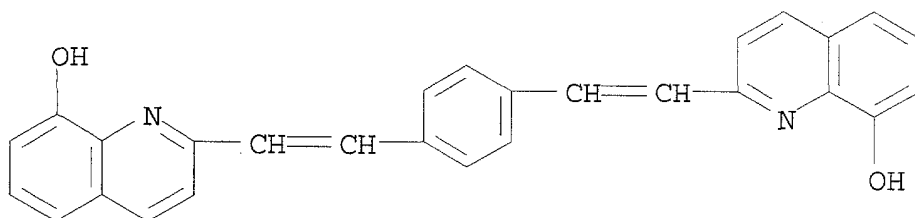
RN 150694-04-5 ZCAPLUS

CN 8-Quinolinol, 2,2'-(1,4-phenylenedi-2,1-ethenediyl)bis-, polymer
with (chloromethyl)oxirane and 4,4'-sulfonylbis[benzenamine] (9CI)
(CA INDEX NAME)

CM 1

CRN 115294-33-2

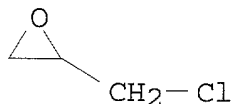
CMF C28 H20 N2 O2



CM 2

CRN 106-89-8

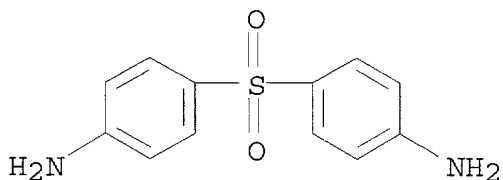
CMF C3 H5 Cl O



CM 3

CRN 80-08-0

CMF C12 H12 N2 O2 S



RN 150694-05-6 ZCAPLUS

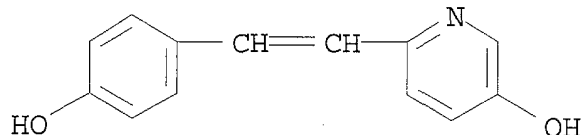
CN 3-Pyridinol, 6-[2-(4-hydroxyphenyl)ethenyl]-, polymer with
(chloromethyl)oxirane and 4,4'-sulfonylbis[benzenamine] (9CI) (CA

INDEX NAME)

CM 1

CRN 150674-04-7

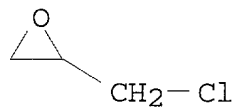
CMF C13 H11 N O2



CM 2

CRN 106-89-8

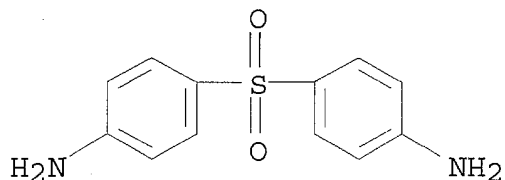
CMF C3 H5 Cl O



CM 3

CRN 80-08-0

CMF C12 H12 N2 O2 S



IT 150694-04-5P 150694-05-6P
(prepn. and characterization of)

L32 ANSWER 7 OF 12 ZCAPLUS COPYRIGHT 2003 ACS on STN
1992:613584 Document No. 117:213584 Langmuir-Blodgett films of
stilbazolium chloride polyethers. Structural studies. Saperstein,
David D.; Rabolt, John F.; Hoover, J. M.; Stroeve, Pieter (Storage
Syst. Prod. Div., IBM, San Jose, CA, 95193, USA). ACS Symposium
Series, 493 (Macromol. Assem. Polym. Syst.), 104-12 (English) 1992.

CODEN: ACSMC8. ISSN: 0097-6156.

AB The orientation and order of Langmuir-Blodgett films of stilbazolium-epichlorohydrin polymer interleaved with deuterated arachidic acid are studied with IR radiation. IR absorption bands characteristic of the head and tail groups in both the dye and spacer are identified. Preliminary heating and aging studies show that the assembly undergoes a slow structural rearrangement at room temp. which is accelerated by heat. The obsd. rearrangement is consistent with previously measured second harmonic generation signal loss in aged assemblies compared with freshly prepd. samples.

IT 136837-54-2P

(Langmuir-Blodgett films, interleaved with arachidic acid, structure and second harmonic generation of)

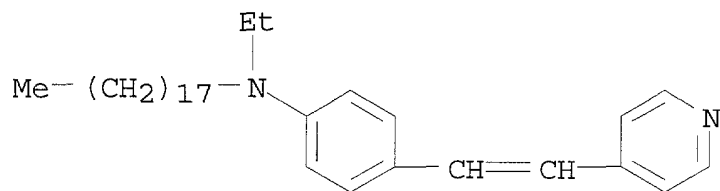
RN 136837-54-2 ZCAPLUS

CN Benzenamine, N-ethyl-N-octadecyl-4-[2-(4-pyridinyl)ethenyl]-, compd. with (chloromethyl)oxirane homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 136837-53-1

CMF C33 H52 N2



CM 2

CRN 24969-06-0

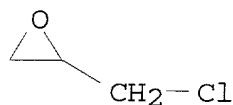
CMF (C3 H5 Cl O)x

CCI PMS

CM 3

CRN 106-89-8

CMF C3 H5 Cl O



IT 136837-54-2P

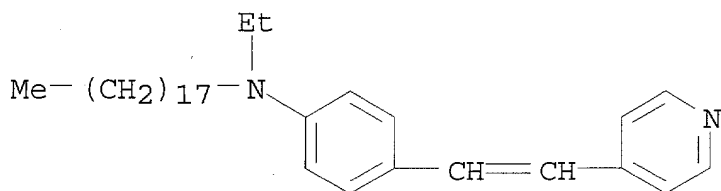
(Langmuir-Blodgett films, interleaved with arachidic acid,

structure and second harmonic generation of)

L32 ANSWER 8 OF 12 ZCAPLUS COPYRIGHT 2003 ACS on STN
1991:608954 Document No. 115:208954 Structural studies of
Langmuir-Blodgett films of stilbazolium chloride polyethers.
Saperstein, David D.; Rabolt, John F.; Hoover, James M.; Dreessen,
David S.; Hansen, Shawn G.; Stroeve, Pieter (Stor. Syst. Prod. Div.,
IBM, San Jose, CA, 95193, USA). Polymer Preprints (American
Chemical Society, Division of Polymer Chemistry), 32(1), 244-5
(English) 1991. CODEN: ACPPAY. ISSN: 0032-3934.
AB The orientation and order of Langmuir-Blodgett films of
stilbazolium-contg. polyepichlorohydrin were evaluated via IR
spectroscopy under mild heating conditions and ambient aging over
several months.
IT **136837-54-2**
(Langmuir-Blodgett films, orientation and order of, under heating
and aging conditions)
RN 136837-54-2 ZCAPLUS
CN Benzenamine, N-ethyl-N-octadecyl-4-[2-(4-pyridinyl)ethenyl]-, compd.
with (chloromethyl)oxirane homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 136837-53-1
CMF C33 H52 N2

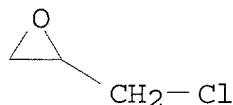


CM 2

CRN 24969-06-0
CMF (C3 H5 Cl O)x
CCI PMS

CM 3

CRN 106-89-8
CMF C3 H5 Cl O



IT 136837-54-2

(Langmuir-Blodgett films, orientation and order of, under heating and aging conditions)

L32 ANSWER 9 OF 12 ZCAPLUS COPYRIGHT 2003 ACS on STN

1991:248325 Document No. 114:248325 Polyesters, polyurethanes, and epoxy resin derived from 2,2'-(1,4-phenylenedivinylene)bis(5-hydroxypyridine). Mikroyannidis, John A. (Dep. Chem., Univ. Patras, Patras, GR-26110, Greece). Journal of Polymer Science, Part A: Polymer Chemistry, 29(6), 881-7 (English) 1991. CODEN: JPACEC. ISSN: 0887-624X.

AB 2,2'-(1,4-Phenylenedivinylene)bis(5-hydroxypyridine) (I) was used as a starting material for prepg. new polyesters and polyurethanes as well as diepoxide-bearing styrylpyridine segments. The polyesters were prepd. by reacting I with terephthaloyl or adipoyl dichloride using the interfacial polycondensation method. The polyurethanes were prepd. by the reactions of I with tolylene diisocyanate or methylenebis(4-phenylisocyanate). Also, a model diester and diurethane were synthesized by reacting I with benzoyl chloride and Ph isocyanate, resp. Both model compds. and polymers were characterized by IR and 1H-NMR spectroscopy, as well as by DTA and TGA. A diepoxide was also prepd. from the reaction of I with epichlorohydrin, which was polymd. in the presence of 4,4'-diaminodiphenylsulfone. The polyester derived from I and terephthaloyl dichloride was the most thermostable polymer obtained. It was stable in N at .ltoreq.355.degree. and afforded an anaerobic char yield of 59% at 800.degree.. The thermal stabilities of the polymers were improved by curing.

IT 134246-14-3P

(prepn. and thermal stability of)

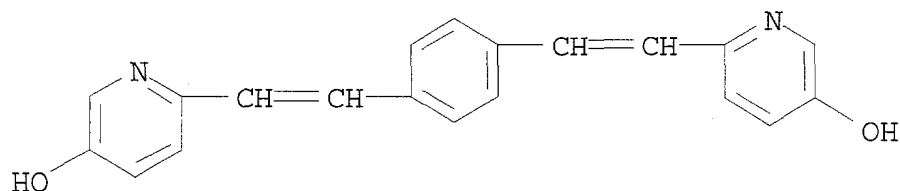
RN 134246-14-3 ZCAPLUS

CN 3-Pyridinol, 6,6'-(1,4-phenylenedi-2,1-ethenediyl)bis-, dihydrochloride, polymer with (chloromethyl)oxirane and 4,4'-sulfonylbis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 134246-09-6

CMF C20 H16 N2 O2 . 2 Cl H

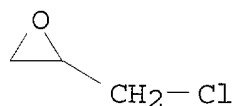


● 2 HCl

CM 2

CRN 106-89-8

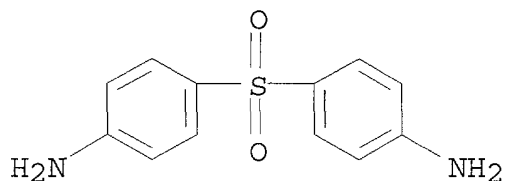
CMF C3 H5 Cl O



CM 3

CRN 80-08-0

CMF C12 H12 N2 O2 S



IT 134246-14-3P
(prepn. and thermal stability of)

L32 ANSWER 10 OF 12 ZCAPLUS COPYRIGHT 2003 ACS on STN
1990:218086 Document No. 112:218086 Epoxy resins containing
hydroxystyryl compounds for high strength and glass temperature.
Hefner, Robert E., Jr.; Robinson, John W.; Earls, Jimmy D. (Dow
Chemical Co., USA). U.S. US 4883844 A 19891128, 14 pp.
Cont.-in-part of U.S. Ser. No. 101,048, abandoned. (English).
CODEN: USXXAM. APPLICATION: US 1988-280414 19881206. PRIORITY: US

1987-101048 19870905.

AB The title resins are prepd. from epihalohydrins and reaction products of arom. hydroxy aldehydes, methylated azines, and optionally arom. dialdehydes. Thus, stirring 2,6-lutidine 107, 3,5-dimethyl-4-hydroxybenzaldehyde 375, Ac2O 510, and AcOH 300.2 g at 140.degree. for 5 days and sapon. the resulting 2,6-di(3,5-dimethyl-4-acetoxystyryl)pyridine (I) in aq. alc. NaOH at 70.degree. gave 2,6-(3,5-dimethyl-4-hydroxystyryl)pyridine, which was condensed (185.73 g) with 462.65 g epichlorohydrin and advanced (25.0 g) with 11.58 g I to give a brown solid contg. 7.38% epoxide. When cured with dicyandiamide, this resin lost 2.5% wt. at 350.degree. in TGA.

IT 127122-78-5P

(prepn. of, with high strength and glass temp.)

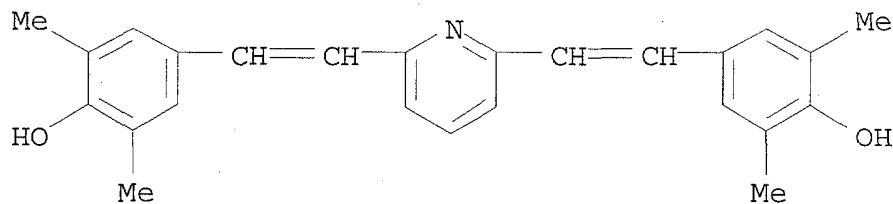
RN 127122-78-5 ZCAPLUS

CN Phenol, 4,4'-(2,6-pyridinediyl-di-2,1-ethenediyl)bis[2,6-dimethyl-, polymer with (chloromethyl)oxirane and 4,4'-methylenebis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 125262-46-6

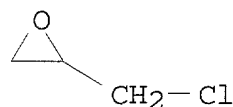
CMF C25 H25 N O2



CM 2

CRN 106-89-8

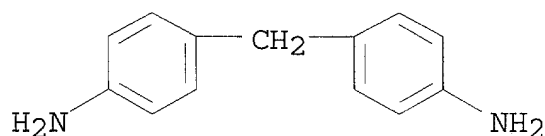
CMF C3 H5 Cl O



CM 3

CRN 101-77-9

CMF C13 H14 N2



IT 127122-78-5P

(prepn. of, with high strength and glass temp.)

L32 ANSWER 11 OF 12 ZCAPLUS COPYRIGHT 2003 ACS on STN
 1990:168497 Document No. 112:168497 Second harmonic generation in
 Langmuir-Blodgett multilayers of stilbazolium chloride polyethers.
 Anderson, B. L.; Hoover, J. M.; Lindsay, G. A.; Higgins, B. G.;
 Stroeve, P.; Kowel, S. T. (Dep. Chem. Eng., Univ. California, Davis,
 CA, 95616, USA). Thin Solid Films, 179, 413-21 (English) 1989.
 CODEN: THSFAP. ISSN: 0040-6090.

AB Multilayer Langmuir-Blodgett (LB) films of a new dye-substituted
 polymer, dialkylaminostilbazolium poly(epichlorohydrin) were studied
 with 2nd harmonic generation (SHG) and UV-visible absorption
 techniques. The synthesis resulted in a nearly quant. substituted
 stilbazolium chloride polyether (stilbazolium-PECH) with a comb
 structure. The dye can be compressed .ltoreq.47 m Nm-1 to form a
 stable monolayer that is easily transferred to glass supports, and
 can be interleaved with behenic acid to form noncentrosym.
 structures. The 2nd-order susceptibility of the stilbazolium-PECH
 is comparable in magnitude with that of a hemicyanine dye and is
 potentially a useful material for fabricating films for nonlinear
 optics. Multilayers of stilbazolium-PECH interleaved with behenic
 acid display enhancement of the SHG efficiency, although not
 quadratic. Unlike the hemicyanine dye, stilbazolium-PECH does not
 appear to form H aggregates in LB films. The effect was
 investigated of varying the no. of behenic acid spacer layers
 between each pair of dye layers on SHG intensity and absorbance.

IT 125976-92-3

(second-harmonic generation in Langmuir-Blodgett multilayers of,
 with behenic acid)

RN 125976-92-3 ZCAPLUS

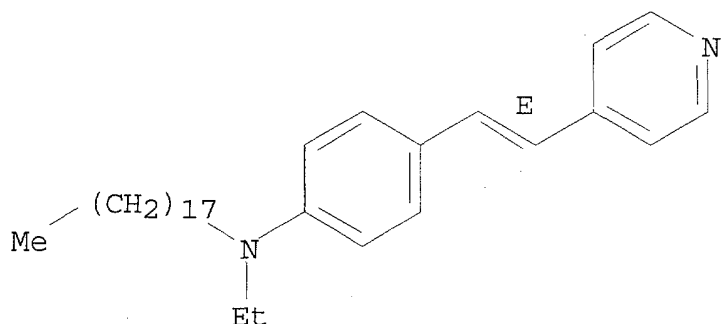
CN Benzenamine, N-ethyl-N-octadecyl-4-[2-(4-pyridinyl)ethenyl]-, (E)-,
 compd. with (chloromethyl)oxirane homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 125976-91-2

CMF C33 H52 N2

Double bond geometry as shown.

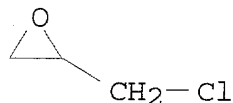


CM 2

CRN 24969-06-0
 CMF (C3 H5 Cl O) x
 CCI PMS

CM 3

CRN 106-89-8
 CMF C3 H5 Cl O



IT 125976-92-3

(second-harmonic generation in Langmuir-Blodgett multilayers of, with behenic acid)

L32 ANSWER 12 OF 12 ZCAPLUS COPYRIGHT 2003 ACS on STN

1981:140636 Document No. 94:140636 Hardenable polymer mixtures based on polyols and isocyanates. Lottanti, Giuseppe; Cascianelli, Carlo (Micafil A.-G., Switz.). Ger. Offen. DE 3010384 19810129, 22 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1980-3010384 19800318.

AB An unsatd. polyol prepd. by the reaction of $\text{H}_2\text{C}:\text{CClCH}_2\text{OH}$ (I), trimethylolpropane diallyl ether, acrylic acid, $\text{H}_2\text{C}:\text{CHOCH}_2\text{CH}_2\text{OH}$, $\text{H}_2\text{C}:\text{CHSCH}_2\text{CH}_2\text{OH}$, $\text{H}_2\text{C}:\text{CHNMeCH}_2\text{CH}_2\text{OH}$, 2-(2-pyridyl)allyl alc., or a similar compd. with bisphenol A diglycidyl ether (II), 3,4-epoxycyclohexylmethyl 3,4-epoxycyclohexanecarboxylate, bis(3-glycidyl-5,5-dimethylhydantoin-1-yl)methane, or diglycidyl hexahydrophthalate is used with diisocyanates and in some cases, polyols to prep. hardened resins which have good dimensional stability during heating. Thus, 2 mol I and 1 mol II (epoxide no. 5.2) were heated at 170.degree. to prep. an unsatd. polyol (OH equiv wt. 260) which was mixed (50 g) with Baygal K 55 (polyether polyol)

50, castor oil 25, zeolite paste 10, powd. quartz 150, and bis(4-isocyanatophenyl)methane 100 g and hardened at 100.degree. for 7 h. The dimensions of the hardened resin did not change during 150 h at 200.degree..

IT 77089-06-6P

(manuf. of crosslinked, with dimensional stability during heating)

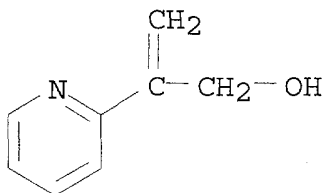
RN 77089-06-6 ZCAPLUS

CN 2-Pyridineethanol, .beta.-methylene-, polymer with (chloromethyl)oxirane, 1,3-diisocyanatomethylbenzene and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 58379-60-5

CMF C8 H9 N O

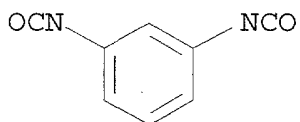


CM 2

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS

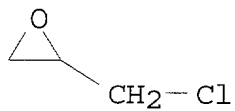


D1-Me

CM 3

CRN 106-89-8

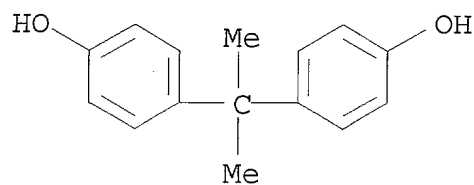
CMF C3 H5 Cl O



CM 4

CRN 80-05-7

CMF C15 H16 O2



IT 77089-06-6P

(manuf. of crosslinked, with dimensional stability during heating)